Environmental Management

Radon in Air Technical Guide

E802.0401

OVERVIEW

GSA minimizes radon exposure to building occupants by implementing radon programs in its buildings.

Radon is a radioactive gas that comes from the natural radioactive decay of uranium in soil and rock. Potential sources of radon are the earth and rock beneath homes and buildings. Radon gas seeps into buildings or homes located near or on soil containing uranium ores. The gas travels through the soil and enters at lower building levels through cracks and holes in the foundation, walls, drains, or sump pump openings. Exposure to radon is linked to cancer risk.

There are no federal regulations for radon in the working environment. EPA has developed guidelines for private residences and recommends that mitigation actions be taken to reduce radon levels in indoor air to below 4 picocuries per liter (pCi/L). GSA has adopted these guidelines for its federal buildings.

GSA Responsibilities	■ Test for radon in indoor air. ■ Notify appropriate client agencies of testing results. ■ Mitigate and retest when action levels are exceeded.
Safety and Environmental Management Personnel Responsibilities	■ Test for radon according to GSA guidelines. ■ Enter response actions or sample results in the WEB-BER/IRIS.
Property Management Community Responsibilities	■ Mitigate or secure permanent alternative air source when action levels are exceeded. ■ Notify building occupants if radon levels exceed GSA action levels. ■ Retest indoor air if radon levels are exceeded.

Radon Rules and Guidance

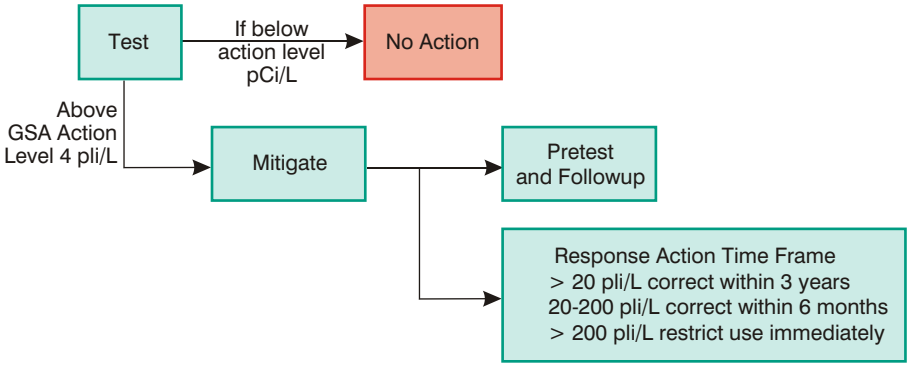
Citation	Topic
Indoor Air Radon Abatement Act (IRAA)(Title III of the Toxic Substances Control Act)	Requires all federal agencies to conduct studies of radon contamination in high radon risk areas. *http://www.epa.gov/epahome/laws.htm*
EPA 1994. "A Citizen's Guide to Radon." EPA Doc. 402-K-92-001.	Provides guidelines for testing and abatement of radon in the home. *http://www.epa.gov/iaq/radon/pubs/citguide.html*
EPA 1994. "Radon In Schools". EPA Doc. 402-F-94-009.	Establishes standards for radon testing in schools that should be considered in GSA facilities. *http://www.epa.gov/iaq/radon/pubs/schoolrn.html*

Further Information

- **PBS Environmental Hotline**
  (800) 379-6505 or e-mail pbshotline@ene.com
- **GSA Home Page**
  http://www.gsa.gov - Search Term "Radon"
- **PBS Environmental Programs Home Page**
  (GSA intranet users only)
  http://insite.gsa.gov/pbs/environmental
- **EPA Regional Indoor Air/Radon Coordinator Contact List**
  http://www.epa.gov/iaq/regionia.html
- **National Radon Information Line**
  1-800-SOS-RADON
- **EPA Map of Radon Zones**
  http://www.epa.gov/iaq/radon/zonemap.html
- **National Academy of Sciences Radon in Indoor Air**
  http://www.epa.gov/iaq/radon/beirvi1.html
- **EPA Radiation in Air Radiation Mitigation Standards**
  http://www.epa.gov/iedweb00/radon/pubs/mitstds.html#purpose
- **EPA Regional Radon Training Centers**
  http://www.epa.gov/iaq/rrtcs.html
- **Radon FAQ**
  http://www.nsc.org/ehc/radon/rad_faqs.htm

TESTING REQUIREMENTS

- Conduct a short-term test (<90 days) to determine if level of 4 pCi/L is exceeded.
- If action level of 4 pCi/L is exceeded, conduct a long-term test (>90 days) to obtain more accurate radon concentration information.
- Retest building after any radon remediation.



NOTE:
Neither EPA nor OSHA has regulations concerning radon monitoring in occupational settings. The EPA residential action level of 4 pCi/L has been adapted by GSA for GSA buildings. It is thought by some to be overprotective for an occupational exposure scenario. Several years ago GSA Region 6 proposed that the action level should be between 14-20 pCi./L.

REPORTING REQUIREMENTS

- Regions must forward the results of the radon measurements in GSA-owned, leased, or delegated buildings to the Property Management Center Customer Service Representative or occupant agency liaison.
- Building occupants must be informed of the results and response actions that will be taken if radon levels exceed the GSA action level of 4 pCi/L.
- Radon response/abatement actions must be added into the Safety Environmental Management System and into the Repair and Alterations Computerized Automated Tracking System (RACATS) if action is beyond the funding authority of the Facility Manager.

MAP OF RADON ZONES

Zone 1 counties have a predicted average indoor radon screening level greater than 4 pCi/L (red zones).

Zone 2 counties have a predicted average indoor radon screening level between 2 and 4 pCi/L (orange zones).

Zone 3 counties have a predicted average indoor radon screening level less than 2 pCi/L (yellow zones)